

**Notice of Allowability**

Application No.

10/781,512

Examiner

Ernest Unelus

Applicant(s)

LEE ET AL.

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 04/16/07.
2. ☒ The allowed claim(s) is/are 1-18 and 20-24.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

### DETAILED ACTION

**The terminal disclaimer filed on 06/15/07 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of application # 10/781,512 has been reviewed and is accepted. The terminal disclaimer has been recorded.**

#### **I. EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
2. Authorization for this examiner's amendment was given in a telephone interview with Mr. Joseph Lutz (Reg. No. 43,765) on June 15, 2007. The examiner proposed amendments to better place the application in condition for allowance, particularly adding the limitation that prior arts fail to teach. Mr. Lutz agreed.
3. The application has been amended as follows:  
**Claim 1** (Currently Amended) a system comprising:  
an input/output (I/O) controller to receive request cycles from a requesting device, the I/O controller including a completion queue; and  
a patch module coupled to the completion queue, the patch module to capture an incoming request cycle received by the I/O controller and to determine if the captured incoming request cycle matches one or more of preprogrammed trigger conditions, wherein the patch module can work around a captured non-posted request cycle by controlling header information

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loaded into the completion queue and by instructing the completion queue whether or not to discard a completion packet received from a designated end-device, wherein the requesting device is different from the designated end-device.

4. **Claim 11** (Currently Amended) a method comprising:

receiving an incoming request cycle from a requesting device;

determining if the received incoming request cycle matches one or more of preprogrammed trigger conditions;

determining if the received incoming request cycle is a non-posted request cycle;

if the received incoming request cycle matches a trigger condition and is a non-posted request cycle, loading a completion queue with one of following (1) unmodified header information from the captured non-posted request cycle, (2) modified header information associated with a modified non-posted request cycle, or (3) header information associated with a new request cycle generated in response the received incoming request cycle;

instructing the completion queue whether or not to discard a completion packet received from a designated end-device when the completion queue is loaded with header information from one of the modified, non-posted request cycle and the generated, new request cycle, wherein the requesting device is different from the designated end-device.

5. **Claim 16** (Currently Amended) a patch module comprising:

a trigger-matching logic to capture an incoming request cycle from a requesting device and determine if the captured incoming request cycle matches one or more of trigger conditions; and

a control logic coupled to the trigger-matching logic to select a set of instructions upon detection of at least one matched trigger condition and to execute operations as specified by the selected set of instructions, wherein if the captured request cycle that caused a trigger is a non-posted request cycle, the control logic instructs a completion queue to load the completion queue with one of the following (1) unmodified header information from the captured non-posted request cycle, (2) modified header information associated with modified non-posted request cycle, or (3) header information associated with a new request cycle generated in response the captured request cycle,

wherein the control logic instructs the completion queue whether or not to return a completion packet received from a designated end-device when the completion queue is loaded with header information from one of the modified non-posted request cycle and the generated, new request cycle to the requesting device, wherein the requesting device is different from the designated end-device.

6. **Claim 21** (Currently Amended) A machine-readable medium that provides instructions, which when executed by a processor cause the processor the perform operations comprising: receiving an incoming request cycle from a requesting device;
- determining if the received incoming request cycle matches one or more of preprogrammed trigger conditions;

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determining if the received incoming request cycle is a non-posted request cycle;  
if the received incoming request cycle matches a trigger condition and is a non-posted request cycle, loading a completion queue with one of following (1) unmodified header information from the captured non-posted request cycle, (2) modified header information associated with modified non-posted request cycle, or (3) header information associated with a new request cycle generated in response the received incoming request cycle; and  
instructing the completion queue whether or not to discard a completion packet received from a designated end-device when the completion queue is loaded within header information from one of the modified, non-posted request cycle and the generated, new request cycle, wherein the requesting device is different from the designated end-device.

## **II. RELEVANT ART CITED BY THE EXAMINER**

7. The following prior art made of record and not relied upon is cited to establish the level of skill in the applicant's art and those arts considered reasonably pertinent to applicant's disclosure. See MPEP 707.05(c).

8. The following reference teaches a computer system used to detect, transfer data, workaround defects and conditions existing in an integrated circuit chip.

### **U.S. PATENT NUMBER**

US 5,664,223

US 5,448,558

US 20060050690

US6859867

US 5943482

US 5,594,868

US 6,339,801

US 6,345,326

US 7,111,301

### III. ALLOWABLE SUBJECT MATTER

9. The following is an examiner's statement of reasons for allowance: In regards to claim 1, the prior art of record fails to disclose "wherein the patch module can work around a captured non-posted request cycle by controlling header information loaded into the completion queue and by instructing the completion queue whether or not to discard a completion packet received from a designated end-device".

In regards to claims 11 and 21, the prior art of record fails to disclose "instructing the completion queue whether or not to discard a completion packet received from a designated end-device when the completion queue is loaded with header information from one of the modified, non-posted request cycle and the generated, new request cycle".

10. The remaining claims 2-10, 12-18, 20, and 22-24 are allowed by virtue of their dependencies on the independent claims. Claim 19 is canceled. Hence, the examiner has allowed claims 1-18 and 20-24.

11. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

**IV. CLOSING COMMENTS**

**Conclusion**

**a. STATUS OF CLAIMS IN THE APPLICATION**

12. The following is a summary of the treatment and status of all claims in the application as recommended by M.P.E.P. 707.07(i):

**a(1) CLAIMS ALLOWED IN THE APPLICATION**

13. Per the instant office action, claims 1-18 and 20-24 have been allowed.

**b. DIRECTION OF FUTURE CORRESPONDENCES**

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ernest Unelus whose telephone number is (571) 272-8596. The examiner can normally be reached on Monday to Friday 9:00 AM to 5:00 PM.

**IMPORTANT NOTE**

15. If attempts to reach the above noted Examiner by telephone are unsuccessful, the Examiner's supervisor, Mr. Donald Sparks, can be reached at the following telephone number: Area Code (571) 272-4201.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or


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Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PMR system, see [her//pair-direct.uspto.gov](http://pair-direct.uspto.gov).

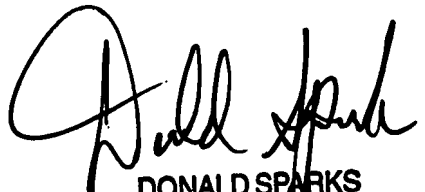
Should you have questions on access to the Private PAIR system, contact the

Electronic Business Center (EBC) at 866-217- 91 97 (toll-free).

June 14, 2007



Ernest Unelus  
Patent Examiner, Art Unit 2181



DONALD SPARKS  
SUPERVISORY PATENT EXAMINER